

MORPHOLOGICAL VARIABILITY OF THE *HAPLOSYLLIS* (SYLLIDAE: POLYCAHETA) SPECIES-COMPLEX IN AUSTRALIAN SEAS



Patricia Lattig^{1,2}, Daniel Martin², Guillermo San Martín¹



¹ Departamento de Biología (Zoología), Laboratorio de Biología Marina e invertebrados, Facultad de Ciencias, Universidad Autónoma de Madrid, calle Darwin 2, 28049 Canto Blanco, Madrid, Spain.
² Centre d'Estudis Avançats de Blanes (CSIC), Carrer d'accés a la Cala Sant Francesc 14, 17300 Blanes (Girona), Catalunya, Spain

INTRODUCTION

The species of the *Haplosyllis spongicola* (Grube 1855) complex have been a topic of research during the last years, due to the high variability of their morphological characters and the high number of non-described species. In the first contribution of this worldwide taxonomic revision, Martin *et al.* (2003) studied 28 populations around the world with morphometric and classic morphological approaches, revealing the existence of a pseudo-sibling species-complex. Since then, two new species have been described, *Haplosyllis crassicirrata* from Japan (Aguado *et al.*, 2006) and *H. lobo* from Argentina (Paola *et al.* 2006), and the type species, *H. spongicola*, has been re-described and distinguished from other two new species, *H. carmenbrittoae* from Canary Islands and *Geminosyllis granulosa* from the Mediterranean sea (Lattig *et al.*, 2007). In the present study, a great number of *Haplosyllis* from Australia have been examined and identified. Nine morphotypes have been found, of which seven will be formally described as new species, this being the first review of this sponge-symbiotic genus in Australian waters.

MATERIAL AND METHODS

The collections of *Haplosyllis* where extracted from sponges deposited at the Australian Museum (Sydney) coming from New South Wales, Western Australia, Tasmania, Darwin harbour (Northern Territory), Queensland and Papua-New Guinea. The specimens where carefully examined and identified. Scanning electron microscope images were taken at the “Servei de Microscopia Electrònica” of the “Institut de Ciències del Mar” of Barcelona (ICM, CSIC); optic microscope images were taken at Centre d'Estudis Avançats de Blanes (CEAB, CSIC).

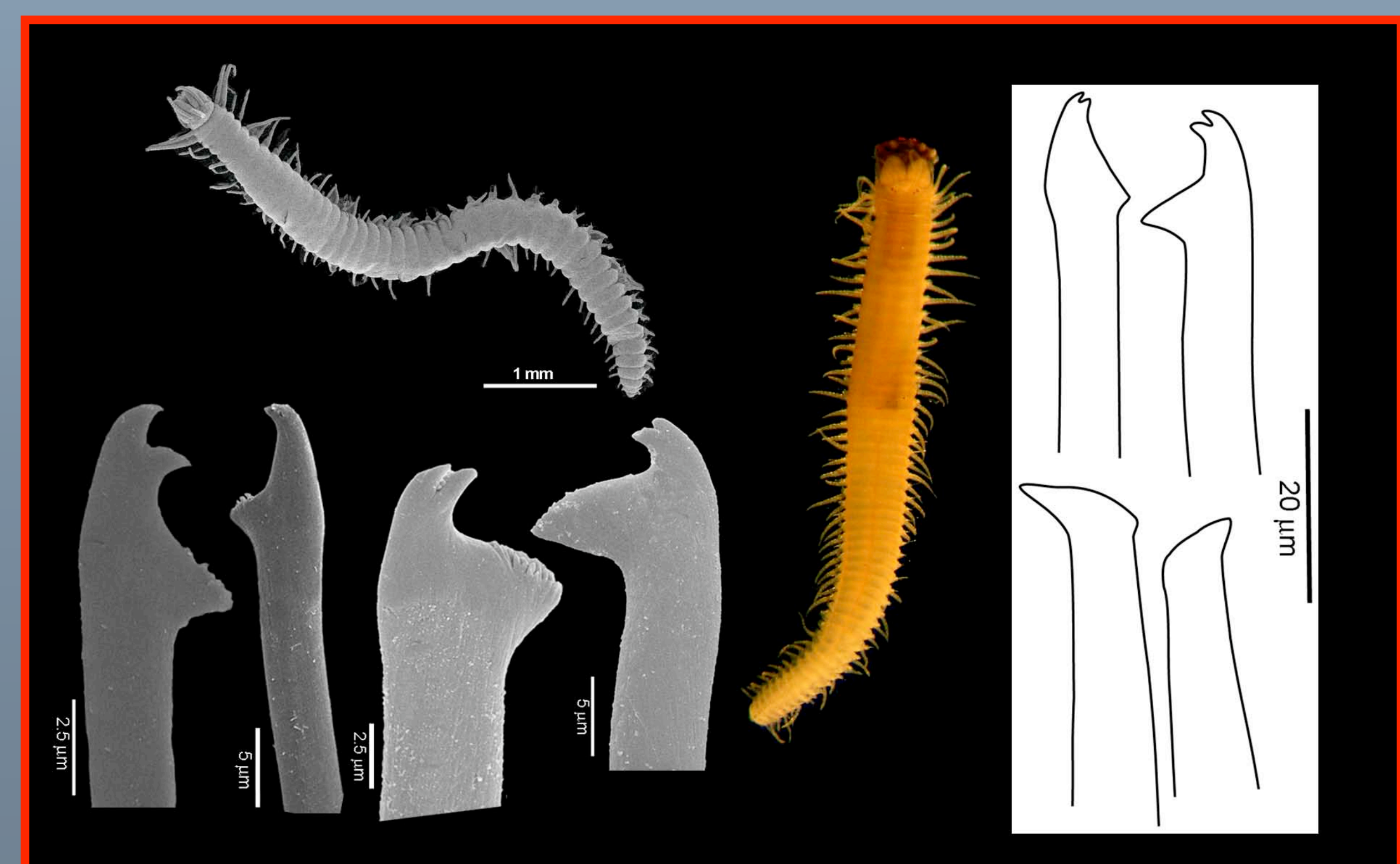
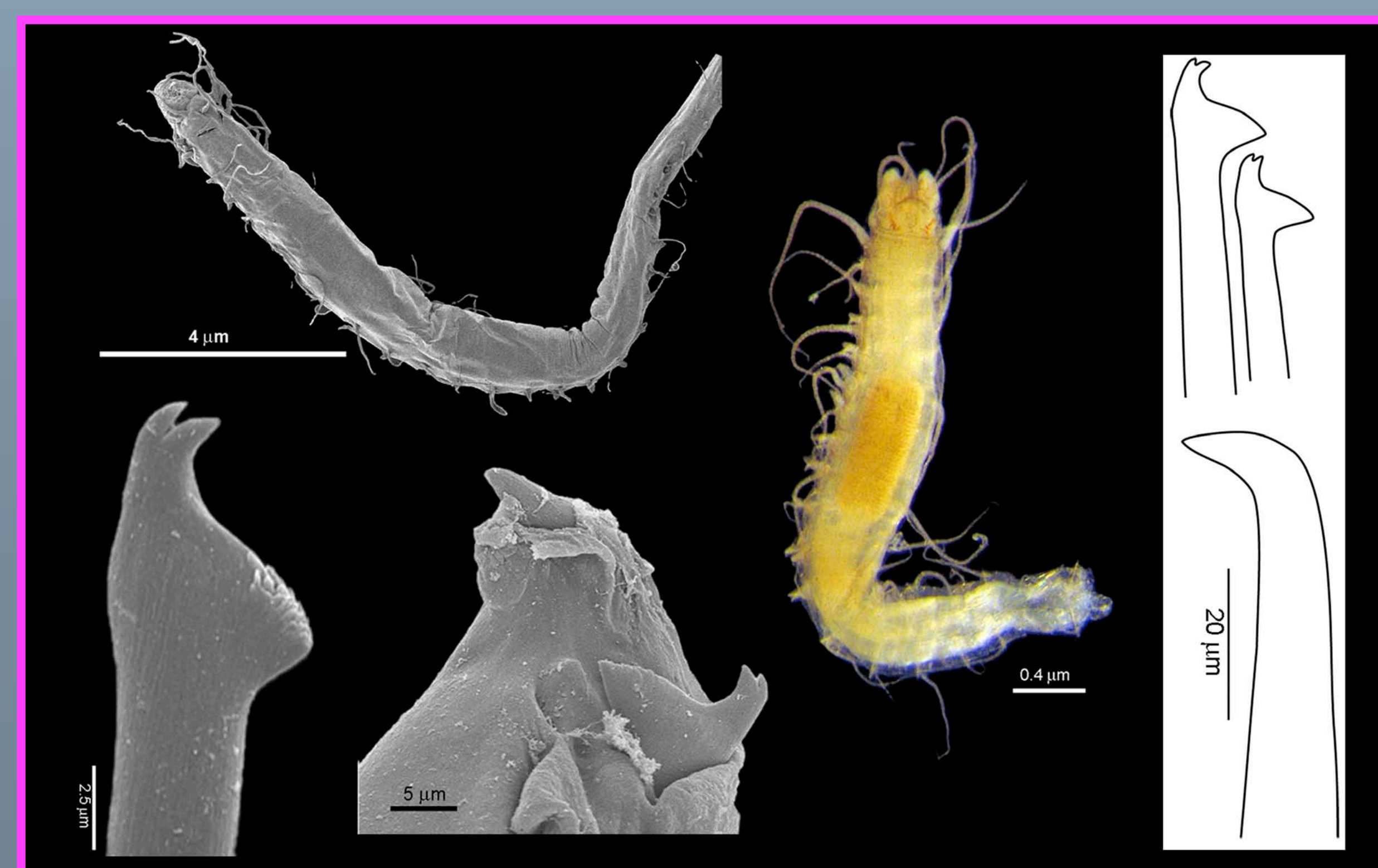
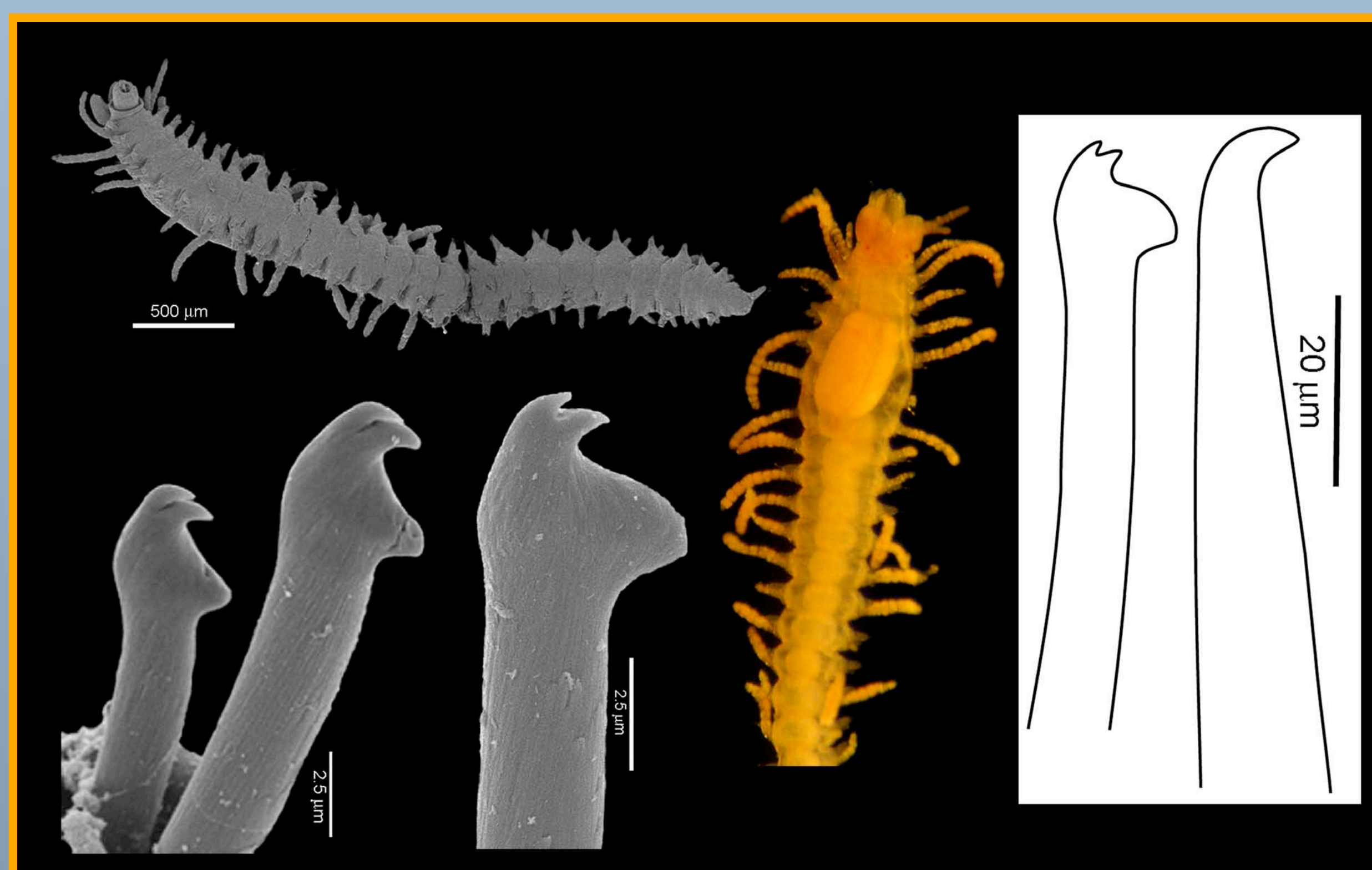
RESULTS

Haplosyllis basticola Sardá, Ávila & Paul 2002 and *H. crassicirrata* Aguado, San Martín & Nishi 2007 were the only two previously known species identified for the Australian seas. Besides them, seven different morphotypes have been identified. All where classified in four groups, according to the chaetal features and, especially, the type of serration on the main fang.

Identified groups of morphotypes

- 1) Specimens without serration, usually with small bodies and short cirri;
- 2) specimens with long spines in the serration, long cirri (9 – 24 articles) and commonly of medium-sized bodies (3 – 6 mm long);
- 3) Specimens with short spines on the main fang, same chaetal shape and long cirri through all body;
- 4) specimens with different chaetal shape through all body and long cirri restricted to the anterior-most segments.

The position of two additional morphotypes including long and robust specimens remain unclear because their chaetal features are not well-defined.



DISCUSSION

Besides the sampling protocol was not specifically designed to address biogeographical issues, most morphotypes tended to show wide distributions. The same basic problem applies to the assessment of their host specificity and other characteristics of their associations with the respective host sponges, a very interesting question that would certainly require further investigations. The present results demonstrate a high variability of the *spongicola*-like morphotypes within the Australian *Haplosyllis*, confirming that the genus actually consist of a large complex of cryptic species (most of them new), which show enough taxonomically robust differences to be formally described, as postulated by Martin *et al.* (2003).

REFERENCES

- Aguado, M.T., G. San Martín & E. Nishi. – 2006.
 Grube, E. - 1855.
 Lattig, P. G. San Martín & D. Martin. – 2007.
 Martin, D., T.A. Britayev, G. San Martín & J. Gil. - 2003.
 Paola, A., San Martín, G. & Martín, D. – 2006.
 Sardá, R., C. Ávila & V.J. Paul. - 2002.